

REMARKS

Reconsideration of the present application is respectfully requested. Claims 30-50 are currently pending.

Claims 38-44 stand rejected under 35 U.S.C. 102(e) as being anticipated by U.S. Patent No. 6,326,965 to Castelli et al. ("Castelli"). Regarding independent claim 38, Applicant respectfully submits that Castelli fails to teach or suggest at least the features of "a plurality of subpictures defining a portion of the picture, each subpicture capable of storing a predetermined maximum amount of data" and "a plurality of levels arranged in a stacked relationship, each level having a different resolution and a different number of subpictures, wherein a subpicture in a higher level of the plurality of levels is capable of storing a larger predetermined maximum amount of data than a subpicture in a lower level of the plurality of levels."

In the Response to Arguments section of the Office Action it is asserted that the claims as amended in response to the previous Office Action fail to distinguish over Castelli for the reasons as identified in the claim rejections. The Office Action indicates that "Applicant argues Castelli fails to disclose an arrangement of levels where elements defining a set of data belonging to the picture are placed into different subpictures defining a portion of the picture." The Office Action further asserts that "in reply, Castelli discloses a spatial and frequency graph view element, e.g. subpicture, hierarchy data structure (Fig. 6) where view elements are at multiple levels and different resolutions." Applicant respectfully submits that the view element described by Castelli cannot be equated with the subpicture as described in embodiments of the present invention.

Figure 6 of Castelli illustrates a hierarchy data structure of view elements in which each spatial decomposition decreases the spatial coverage by one half, and each frequency decomposition decreases the resolution by one half (see column 8, lines 45-47 of Castelli). Castelli teaches an iterative process to decompose a picture into view elements arranged in a hierarchy, or synthesize a picture from view elements by dividing up image data in terms of spatial area and resolution. In accordance with embodiments of the present invention, subpictures are placed at different levels in a picture image. In contrast to the view elements of Castelli which are created by applying a technique for dividing up spatial units and resolution,

embodiments of the present invention describe subpictures which are created by successively filling a limited, predetermined size of memory with image data. In accordance with embodiments of the present invention, when the subpicture of a given area of a picture (or spatial unit) are full, a subpicture at a different (higher) level is filled up with data. In accordance with embodiments of the present invention, the process continues until all of the image data for a spatial unit has been stored.

Castelli further describes that a view element structure includes a node element which indicates the position of the view element is placed in a view. Castelli further describes that the compression and decompression of the view element is carried out according to as specified by a transition element. Castelli further describes in column 2, lines 5-10 of the Background a method in which decomposes image data into a redundant set of view elements, assigns each view element a compression cost, and selects a complete and non-redundant set of view elements based on the compression costs. Castelli further describes that the selected view elements can be used to reconstruct the image data.

In contrast to Castelli, an embodiment of the present invention, for example as illustrated in Figure 2 of the application, describes that certain parts of a picture image of a given spatial unit of a larger image which may be stored in a first subpicture 22A are also present in subpictures 22B, 22C, etc. at different levels of the same spatial unit. The subpictures of the present invention are not a group of redundant "view elements" comprising the same image data stored at different information retrieval costs as described by Castelli. In contrast, the subpictures of the present invention comprise a plurality of subpicture elements each at different resolution levels which are not derived by halving a spatial unit and halving resolution at each level as found in Castelli. For at least the foregoing reasons, Applicant respectfully submits that the subpicture of independent claim 38 cannot be equated with the "view element" of Castelli. Applicant respectfully submits that independent claim 38 distinguishes over Castelli and requests that the 35 U.S.C. 102(e) rejection of independent claim 38 be withdrawn.

Claims 39-44 are dependent upon and include the features of independent claim 38. For at least the reasons as discussed with respect to independent claim 38, Applicant respectfully submits that claims 39-44 also distinguish over Castelli and request that the 35 U.S.C. 102(e) rejections of claims 39-44 be withdrawn.

Claims 30-36 and 45-50 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Castelli. Independent claim 30 includes the features of "identifying a subpicture in a lowest one of the plurality of levels in which the received element may be placed, wherein the lowest level represents a lowest resolution of image data, and wherein each subpicture stores a predetermined maximum amount of elements", "determining whether the identified subpicture has been previously been loaded", "if the identified subpicture is determined to have been loaded, loading the identified subpicture", "placing the received element in the identified subpicture", "determining if a number of elements in the identified subpicture exceeds the predetermined maximum value", and "if the number of elements in the identified subpicture exceeds the predetermined maximum, identifying a number of overlapping subpictures, in a higher one of the plurality of levels, into which the received element may be placed, wherein the higher level represents a higher resolution of image data than the lowest level, and wherein the subpicture in the higher level is capable of storing a larger number of elements than the subpicture in the lowest level." For similar reasons as those discussed with respect to independent claim 38, Applicant respectfully submits that the subpicture of independent claim 30 can not be equated with the view element of Castelli.

Further regarding independent claim 30, it is acknowledged in the Office Action that Castelli fails to disclose "determining whether the identified subpicture has previously been loaded" and "if the identified subpicture is determined not to have been loaded, loading the identified subpicture." However, the Office Action asserts that it would have been obvious to one of ordinary skill in the art to incorporate these features in view of the teachings of column 6, lines 1-10 and Figure 2 of Castelli. In particular, the Office Action asserts that it would have been obvious to one of skill in the art to incorporate these features with the disclosure of Castelli because "minimizing additional information or non-redundancy while selectively loading view elements, e.g. subpictures, where the selected view elements are to be stored for extraction and synthesis enables the view elements, e.g. subpictures, to only be loaded if not previously loaded in order to avoid loading and storing redundant information." Applicant respectfully disagrees. The cited portion of Castelli describes "minimizing storage space; or satisfying constraints of completeness or non-redundancy [Smith 1998]." Applicant submits that the use of the term "non-redundancy" in the cited portion of Castelli is not referring to redundancy in a general sense, but to the specific technical or statistical technique described in column 1, line 62 to

column 2, line 14 of Castelli which describes that "the method decomposes the image data into a redundant set of view elements, assigns each view element a compression cost, and selects a complete and non-redundant set of view elements based on the compression costs." Applicant respectfully submits that the cited portion of Castelli teaches that redundancy in the technical field of handling graphic image data concerns multiple examples of the same view elements which may each have different compression costs. Applicant respectfully submits that Castelli's mention of the word redundancy does not lead one of ordinary skill in the art to the direction of checking to see if a specific view element has already been loaded or not.

Further, regarding column 6, lines 5-7 of Castelli which refers to "minimizing an additive information cost function such as entropy", Applicant respectfully submits that this phrase refers to deriving a statistical term describing a piece of information in terms of a cost function. For example, claim 5 of Castelli refers to "an additive cost function." Applicant respectfully submits that Castelli teaches specific and particular techniques concerned with additive information cost functions which cannot be said to disclose checking to see whether a particular subpicture has been previously loaded as found in independent claim 30. Applicant respectfully submits that independent claim 30 distinguishes over Castelli and requests that the 35 U.S.C. 103(a) rejection of independent claim 30 be withdrawn.

Independent claim 45 includes features similar to those found in independent claim 30. For similar reasons as those discussed with respect to independent claim 30, Applicant respectfully submits that independent claim 45 distinguishes over Castelli and requests that the 35 U.S.C. 103(a) rejection of independent claim 45 be withdrawn.

Claims 31-37 and 46-50 are dependent upon and include the features of independent claims 30 and 45, respectively. For at least the reasons as discussed with respect to independent claims 30 and 45, Applicant respectfully submits that claims 31-37 and 46-50 also distinguish over Castelli and requests that the 35 U.S.C. 103(a) rejections of claims 31-37 and 46-50 be withdrawn.

In view of the foregoing, Applicant believes the pending application is in condition for allowance.

Dated: June 10, 2005

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